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News Summary

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Scientists found aspirin so effective in preventing heart attacks that they cut short an eight-year study to release their results: Page A4.

Mixed reviews greeted an S.E.C. ruling that higher education's largest pension companies could start offering a money-market fund: Page A13.

Sen. Edward M. Kennedy's new education adviser makes some college officials shudder: Page A21.

The Senate last week approved a measure designed to counteract the effects of the Supreme Court's 1984 *Grove City College* ruling: Page A21.

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A football player's decision to leave college for the N.F.L. has threatened a league rule and angered college coaches: Page A35.

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Dukakis Record on Higher Education Assailed by Former President of Massachusetts System

By SCOTT JASCHIK

A former president of the University of Massachusetts system is circulating a letter charging that Gov. Michael S. Dukakis, a leading candidate for the Democratic nomination for President, has a poor record of support for higher education and has been misstating his accomplishments.

Governor Dukakis has repeatedly said in his campaign that Massachusetts is a model for the nation in economic development and that much of the Bay State's economic success can be attributed to its colleges and universities.

Some college officials in Massachusetts say the letter provides an accurate account of the Governor's treatment of higher education. A former chancellor of the University of Massachusetts at Amherst says that on higher-education issues the Governor is a "phony."

Other college leaders, as well as aides to Governor Dukakis, say the letter is unfair. They say the former president of the university system, Robert C. Wood, is seeking retribution for the many times he lost battles against the Governor.

Served President Johnson

Mr. Wood is now the Henry Luce Professor of Democratic Institutions and Social Order at Wesleyan University. He served under President Johnson as Secretary of Housing and Urban Development, and was superintendent of the Boston public schools from 1978 to 1980.

In his letter, which is circulating among

Continued on Page A24

LIKE A DISEASE

'Virus' Destroys Campus Computer Data

By JUDITH AXLER TURNER

A computer "virus" created by a college student in Pakistan has damaged computer programs at three universities in the United States and resulted in changes in procedures at campus microcomputer centers.

The electronic virus, which damages programs or destroys data by erasing three of the 354 data clusters on a standard disk, can be passed from disk to disk as users share I.B.M. PC-series computers and compatible machines in university classes or computer centers. Most users do not know their disks have picked up the virus until they discover the damage that's been done.

George Washington University, the University of Delaware, and the University of Pittsburgh all have taken steps to eradicate the virus—known as the "brain" virus because it can be identified by "(c) BRAIN" on the directory screen—but are watching carefully for additional outbreaks.

"It's like any other disease," said Michael Peckman, a programmer-analyst in the computer-information and resource center at George Washington. "There's always someone who doesn't know he's got it, and passes it on to others."

Checking All Disks

The computer centers are checking all disks used by students and taking steps to make sure the virus does not hide in the computer itself. They also tell students how to identify the virus and eradicate it.

The virus was created by Basit Farooq Alvi, 19, who claims to be a college student in Lahore, Pakistan—a fact

Continued on Page A20

How computer centers thwart electronic contamination: Page A19

Doctorates Earned by Blacks Decline 26.5 Pct. in Decade

820 degrees awarded to them in 1986, over 60 pct. to women

By MICHAEL W. HIRSCHORN

WASHINGTON

Black Americans earned 820 research doctorates in 1986, 26.5 per cent fewer than they received 10 years ago.

Black males earned only 321 research doctorates—down from 684 in 1977.

By contrast, the number of doctorates awarded to black women was 499—more than 15 per cent higher than in 1977.

Black women now earn more than 60 per cent of all doctorates awarded to blacks in the United States.

The numbers were reported by the National Research Council.

Trevor L. Chandler, dean in residence at the Council of Graduate Schools in the United States, said the decline in minority doctorates "holds dire consequences for the professoriate at a later date."

"If we do not have minority graduate students, we are not going to have minority professors," he said.

The research council's wide-ranging survey of earned doctorates also found a continuing decline in the proportion of Ph.D.'s earned in the United States by U.S. citizens.

A statistical profile of the recipients of doctoral degrees in 1986 from American universities: Page A33.

They received 72.3 per cent of the 31,770 research doctorates awarded in 1986, down from 85.6 per cent in 1962.

The decline was especially marked among white males, who earned 12,257 doctorates in 1986, some 28 per cent fewer than the 17,011 doctorates they earned 10 years earlier.

The increasing presence of foreign students in graduate programs was most pronounced in engineering, where U.S. citi-

Continued on Page A32

Women Seek Time Off to Bear Children Without Jeopardizing Academic Careers

By KATHERINE S. MANGAN

When Elizabeth M. Altmaier became pregnant, she learned that she could take six weeks off from her teaching job at the University of Iowa, as long as she lined up colleagues to cover her classes.

But when her baby was delivered three weeks late, by Caesarean section, she was told there would be no extensions. Two weeks after leaving the hospital, she returned to the campus, exhausted and frustrated.

•

After losing her first three babies, Peterann Siehl had to spend six months in bed, including three months in the hospital, during her most recent pregnancy. Part of that time was during the summer, when Ms. Siehl, an assistant professor of education at Bowling Green State University, wasn't teaching anyway.

But by the time the fall term began, Ms. Siehl found that the only medical leave she was entitled to was an informal arrangement under which she had to ask her colleagues to cover her classes while she was gone. She was paid for her semester off, but department members who took over her classes received no additional compensation.

Both women, faced with the difficult task of balancing motherhood with their academic careers, would like to see their universities' maternity-leave policies strengthened to guarantee women the time off to have children without jeopardizing their careers or imposing upon their colleagues.

"It's not going to go back to the old days when the only faculty members with kids were men who had wives at home to take care of them," says Ms. Altmaier.

"New ways will have to be found to get work done and fit in people's personal needs."

As more and more women speak out, colleges and universities around the country are reassessing and revamping their policies to give parents additional time off

Continued on Page A16

MARGINALIA

More computerized fund-raising: The following announcement was received by the University of Missouri Library.

"The President and Trustees of The National Trust for Historic Preservation have the honor to announce the election of

Univ of

to full vested Membership in the National Trust with all its exclusive privileges and benefits. R.S.V.P."

■

Course announcement from Lutheran Theological Seminary:

"'PARISH MINISTRY AND THE CHALLENGE OF METRO WASHINGTON' (January 26, 1988, 10 a.m. to 2:30 p.m.) . . .

"Participants: Perish clergy and Lay Associates in Ministry."

That's *publish* or perish clergy, we assume.

■

Job advertisement in this very newspaper:

"RESEARCH: Associate / Postdoctoral. Immediate opening for permanent position at The Kinsey Institute for Research in Sex, Gender, and Reproduction at Indiana University. Position for Ph.D. (ABD considered) to assist in analysis and report writing for current research projects and grant applications. Should have interest and experience in a broad spectrum of optics . . ."

Do shifty eyes count?

■

Sign outside our office building:

DANGER
FALLING ICE
NO PASSAGE ALOUD

Mum's the word.

■

The 14th item on the agenda for a March meeting of CMA (Colleges of Mid-America) public-relations directors is "How to get mess coverage."

■

Item in a newsletter from Friends of Thunderbird (the American Graduate School of International Management):

"The Sunday evening reception for new students will be held in the home of Dr. William and Mavis Voris on Sunday afternoon, February 7th. . . ."

They just couldn't wait?

■

The chairman of a search committee at the University of Kansas wrote to at least one job applicant:

"I have the unevitable task of informing you that you are not among the group of three candidates the Department has invited to be interviewed for the advertised position in the sociology of aging. . . ."

Unevitable or not, some tasks you've simply *got* to do. —C.G.

In Brief

Documents Show the FBI Spied on Campus Groups

Documents made public last week show that the Federal Bureau of Investigation conducted extensive surveillance of campus groups at eight universities as part of a five-year investigation of organizations opposed to the Reagan Administration's policies in Central America.

The documents, obtained under the Freedom of Information Act by a New York-based lawyers' group, revealed widespread use of surveillance, undercover agents, informers, breaking-and-entering, and mail tampering to gather information on 158 liberal and left-wing organizations in 52 cities, said Bernice Crane, a spokeswoman for the group, the Center for Constitutional Rights.

The eight campuses on which the F.B.I. was active are: Arizona State University, Fisk University, Florida State University, Tennessee State University, the University of Kansas, the University of South Florida, Vanderbilt University, and Wichita State University.

Ms. Crane said deletions in the documents made it difficult to determine the extent of the F.B.I.'s activity on the campuses.

W. Gerry Gilmer, a spokesman for Florida State, said the documents showed the F.B.I. had conducted surveillance in 1983 and 1984 of a campus chapter of a national organization called the Committee in Solidarity with the People of El Salvador.

Koop Describes Plan to Test Campus for AIDS

U.S. Surgeon General C. Everett Koop told reporters at the first global AIDS summit in London last week that health officials might test every student at one American university to help gauge the level of infection among young people. The AIDS testing would be conducted anonymously, at an urban university.

Ellen Casselberry, a spokeswoman for Mr. Koop, said the surgeon general had no definitive plans to conduct the testing. The idea was "kind of a gleam in his eye," she said. "It's something he'd like to see done."

Mr. Koop reportedly said the screening would be done under the auspices of the Centers for Disease Control or the American Medical Association.

Richard P. Keeling, chairman of the American College Health Association's AIDS task force, said he had no knowledge of plans to conduct testing at a single university. But he said officials of the Centers for Disease Control were considering a plan to test blood drawn from students on a number of campuses around the country.

The program, part of a larger effort to measure Americans' exposure to the virus that causes AIDS, would test blood drawn for other reasons, he said, and the blood samples would be identified only by age, sex, and race. The program is still in the planning stages, Dr. Keeling said.

Sheriff Halts Animal Sales to Cal. Veterinary School

A California sheriff has ordered a halt to sales of dogs and cats from the county animal shelter to the School of Veterinary Medicine at the University of California at Davis, a development an official of the school said would "be disastrous to our teaching program."

The decision by Rod Graham, sheriff of Yolo County, was attributed in large part to what a university spokeswoman called "heavy lobbying by animal-rights activists," who hailed the move.

Mr. Graham said the use of animals from the county shelter, which he oversees, for surgery training "doesn't feel real clean to me." He also expressed concern that some animals might have been sold to the school before adequate attempts had been made to find homes for them.

The school obtains about one-third of the dogs and cats it uses from the county, according to Dale Brooks, the university's director of animal-resources services. He said discussions were being held with the sheriff to try to avert the ban, which was scheduled to take effect this week.

What They're Reading on College Campuses

		Previous Survey
1.	The Tommyknockers, by Stephen King	1
2.	Windmills of the Gods, by Sidney Sheldon	4
3.	Time Flies, by Bill Cosby	9
4.	Calvin and Hobbes, by Bill Watterson	—
5.	Far Side Observer, by Gary Larson	3
6.	Billy and the Boingers Bootleg, by Berke Breathed	5
7.	Garden of Shadows, by V. C. Andrews	2
8.	Leaving Home, by Garrison Keillor	7
9.	Perestroika, by Mikhail Gorbachev	—
10.	The Closing of the American Mind, by Allan Bloom	6

The Chronicle's list of best-selling books was compiled from information supplied by stores serving the following campuses: U. of Alaska at Anchorage, Baylor U., Bucknell U., U. of California at San Diego, Carleton College, Carnegie Mellon U., Case Western Reserve U., Central Michigan U., Cleveland State University, Dartmouth College, Denison U., U. of Denver, Drake U., U. of Hawaii, Indiana U., U. of Iowa, Lawrence U., Lehigh U., Mankato State U., U. of Missouri at Columbia, Montana State U., U. of Nebraska at Lincoln, U. of New Orleans, U. of Notre Dame, Pennsylvania State U., U. of Pittsburgh, Portland State U., San Diego State U., Stanford U., Syracuse U., U. of Tennessee at Knoxville, Tulane U., Vanderbilt U., U. of Virginia, West Virginia U., Wichita State U., U. of Wisconsin at Madison, and U. of Wisconsin at Milwaukee.

Reports covered sales of hardcover and paperback trade books in December.

Physical-Therapy Group's Accrediting Role Is Under Attack

WASHINGTON

State higher-education officials last week asked the Council on Postsecondary Accreditation to discontinue its recognition of the American Physical Therapy Association as the accrediting organization for physical-therapy programs.

James R. Mingle, executive director of the State Higher Education Executive Officers, told a panel of the council here that the physical-therapy group, as a professional association concerned primarily with the interests of physical therapists, is an inappropriate group to review education programs.

"Accreditation standards which must be ultimately approved by a body whose membership consists primarily of practitioners can neither serve the public interest nor adequately reflect institutional and state concerns," Mr. Mingle said.

He also criticized the association's plan to require all physical-therapy education programs to be at the graduate level. Currently, many programs are offered on the undergraduate level, he said, and many state officials think a change would be costly and serve no purpose.

G. Alan Stull, dean of the School of Allied Health Professions at the University of Wisconsin at Madison, said: "There exists an obvious conflict of interest between the accreditation process and advocacy role of A.P.T.A."

He said the therapists' group was "a classic example of the unfortunate consequences that can result from specialized professional accreditation when adequate safeguards are not maintained."

A 'Critical' Issue

Mr. Mingle proposed that as a condition of renewing the therapists' accrediting authority, the accreditation council require that the accrediting unit be "completely independent" of the physical-therapy association and that a wider variety of people, such as deans of allied health schools, college presidents, and lay citizens, serve on its panels.

He added that the issue was "critical" because many college officials, as well as other professional associations, had viewed the conflict about therapists as a precedent for other fields.

Virginia Nieland, director of the physical-therapy association's Department of Accreditation, denied that her organization had a conflict of interest. She said her group's support for moving physical-therapy education to the graduate level did not mean that the association would deny accreditation to other programs.

She said her group had supported the change because of the new skills required of physical therapists, not because of a desire to increase therapists' salaries, as some state officials have charged.

Of such critics, she said: "I believe they are reacting to fear of the unknown." She added that the accreditation process "is above reproach."

The accreditation council will announce its ruling in April. —S.J.

Ferris State U. to Refund $300,000 for 5 Lost Days

Ferris State University will return more than $300,000 to students who were unable to attend classes because of a five-day teachers' strike last fall.

More than 7,000 present or former students will receive either cash refunds or credits toward spring-term tuition, according to Patricia Coyle, the college's public-affairs director. She said those demanding refunds would be paid from the $293,000 not paid in salaries to striking faculty members.

University officials are meeting with a state arbitrator over whether faculty members will be paid for the time they were on strike, as well as on the question of differences in the faculty pay structure, which prompted the strike.

Chamber of Commerce to Offer Student Loans

The U.S. Chamber of Commerce last week announced it would offer student loans to employees of its 180,000 member businesses nationwide.

The chamber will be marketing the ConSern Loans for Education

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Students

Urban Community Colleges Urged to Respond to Minority Needs

By MICHELE N-K COLLISON
WASHINGTON

Urban community colleges must respond to a new challenge of educating a student body that is increasingly made up of minority-group members, the less affluent, and people who are less-prepared for college, according to a new study by the American Association of Community and Junior Colleges.

The report, which will be released here this week, says that unless there is an improvement in the education of minority-group members, youths will not have the ability to participate in an increasingly skills-oriented job market.

"The problem of the future will not be a labor shortage, but a skill shortage, born of the mismatch between the needs of the labor market and the profile of the labor pool," says the report, *Minorities in Urban Community Colleges*. "It is precisely as a result of this mismatch that a new nation will emerge within our borders—a darker nation born in poverty—out-of-school, out-of-skills, out-of-hope—unemployed and unemployable."

The report, which was written by a 14-member commission of presidents and chancellors of community colleges, outlines a broad-based plan to enhance the future of minority students in higher education. It is the latest of a number of recent reports discussing the causes and warning of the effects of a drop-off in minority achievement at all educational levels.

The problem of educating minority students is especially pressing for urban community colleges because minorities make up 64.8 per cent of their enrollment and because most members of minority groups live in cities, the commission says.

The report notes that 83 per cent of all Hispanics, 77 per cent of all blacks, and 80 per cent of all Asian-Americans live in urban areas. Those groups also have unemployment rates that are significantly above those of whites, the report says.

Inadequate Preparation

"The most important trend for all postsecondary education is that minority students tend to lose ground at each step of the educational pipeline," the commission says. "The fundamental disparity between white participation rates and those of minority students pervades all areas of postsecondary education."

The study found that the academic preparation of minority students is often inadequate. According to the report, fewer than 50 per cent of minority students have taken courses that will prepare them for college admission. "This further intensifies the problem of achieving success and excellence in the urban community college," the report says.

Concerned that the "open door" policy of the community college not become a "revolving door" for minority students, the authors of the report urge community colleges to help minority students succeed in their academic programs.

The report also warns community colleges about the increased use of standardized testing for admission and placement in higher education.

"Community colleges should use extreme care to assure that standardized testing or minimum-competency testing is never the single determinant of access to higher education or the sole determinant of success," the committee says.

The study also found that since most minority students attend community colleges, they should be encouraged to transfer to four-year institutions. But better coordination between community colleges and four-year institutions is needed to accomplish that goal, the report says. The commission singles out efforts that encourage such cooperation, such as the Ford Foundation Urban Community College Transfer Opportunities Program, which encourages students to transfer from community colleges to black colleges and universities.

The report also recommends that urban community colleges:

- Work with public schools to identify students early in high school to prepare them for community college.
- Establish or improve programs for monitoring academic progress.
- Create programs to assist minority students in test-taking skills and procedures.
- Increase the number of minority faculty members on their campuses.

Copies of the report, *Minorities in Urban Community Colleges: Tomorrow's Students Today*, are available for $7.50 from the American Association of Community and Junior Colleges Publications, 80 South Early Street, Alexandria, Va. 22304; (800) 336-4776.

Research

Developing

Research Skills for

Professional Educators

is a new program developed by Phi Delta Kappa to help educators improve their research skills. The program has two components. The first is a three-day workshop that gives novice researchers an overview of the basic concepts of research, measurement, and methodology needed to conduct a research study. The second is a contract between a sponsoring institution and Phi Delta Kappa that provides ongoing support to the participants for up to one year.

Because of its innovative format, Developing Research Skills for Professional Educators promises to have a significant impact on educational research. Phi Delta Kappa has identified a need and has designed a program to meet that need.

Direct any inquiries about the program to:

Neville Robertson
Phi Delta Kappa
P.O. Box 789
Bloomington, Indiana 47402-0789
(812) 339-1156

Blacks Won Only 820 Doctorates in 1986, 25-Pct. Drop in Decade

Continued from Page A1

zens earned only 40.8 per cent of all the doctorates in 1986.

In a separate report, a National Research Council committee bemoaned the increasing dominance of foreign-born students in graduate-level engineering programs and urged that graduate education in engineering be made a viable alternative to high-paying jobs in industry.

The report, sponsored by the National Academy of Engineering and released last month, said the dearth of native-born students in graduate engineering programs "clearly reflects faulty policies and serious deficiencies in the U.S. educational and value systems."

Among blacks, more than half of the doctorates earned in 1986 were in education-related fields (421) and slightly less than a fifth were in the social sciences (163). Blacks earned only 14 engineering and 25 physical science Ph.D.'s in 1986.

Mr. Chandler of the Council of Graduate Schools said that administrators had become more aware of the minority enrollment problem but had yet to come up with a comprehensive plan to correct it.

A number of institutions, however, have started successful recruitment efforts, offering financial incentives and so-called early-identification programs to encourage members of minority groups to move from colleges to graduate schools.

Cornell University administers two multi-college programs to identify and recruit minority students to graduate programs. One is a six-institution summer program in which minority college juniors and seniors spend eight weeks working on a research project with a graduate adviser. Other member institutions are the University of California campuses at Berkeley and Los Angeles, Princeton University, Stanford University, and Yale University.

Eleanor M. Cox, assistant dean of the graduate school at Cornell, said the four-year-old summer program gave students an edge in applying to graduate programs. In the other program run by Cornell, 21 institutions pool the names of promising minority juniors. Graduate schools and individual faculty members then write to the students, encouraging them to apply.

One institution that has had some success attracting members of minority groups to graduate education is the Massachusetts Institute of Technology, which actively recruits them as early as high school.

M.I.T., considered a leader in minority recruitment in the sciences, in 1987 awarded doctorates to eight members of non-Asian minority groups, said John B. Turner, asso-

Doctorates Earned by U.S. Citizens in 1986

	American Indian	Asian	Black	Hispanic	White	All
Education	26	58	421	188	4,820	5,595
Engineering	6	80	14	25	1,224	1,379
Humanities	7	30	70	76	2,496	2,728
Life sciences	23	152	64	72	3,958	4,342
Physical sciences	8	107	25	53	2,714	3,003
Professional	9	31	63	23	1,246	1,389
Social sciences	20	69	163	130	4,080	4,548
All fields	99	527	820	567	20,538	22,984

Journalism-Association Chief Stirs Ire With Remarks on Advertising

Comments made to *The Chronicle* by the president of the nation's leading journalism educators' association have touched off a rancorous debate about the place of advertising and public-relations courses in journalism schools.

In October, David Weaver, president of the Association for Education in Journalism and Mass Communication, told *The Chronicle* that he believed advertising and public relations, which have fueled a growth in journalism-school enrollment, did not belong in journalism schools (*The Chronicle*, October 14).

"I'm troubled by it," Mr. Weaver was quoted as saying in reference to the changing nature of journalism education. "I would frankly rather see advertising and public relations taught in business schools."

Other journalism educators quoted in the article also expressed reservations about the growth of enrollment in advertising and public-relations programs, which now account for some 44 per cent of the total journalism-school enrollment. Many journalism schools have re-christened themselves as schools of "communications" and have added advertising and public-relations programs.

Mr. Weaver's remarks led the Advisory Board of the association to take the unusual step of publicly disassociating itself from the president's comments. At the association's meeting in December, the board endorsed a statement printed in the January A.E.J.M.C. newsletter saying it "disagrees with the views attributed" to Mr. Weaver and reaffirming "its commitment to the breadth, diversity and commonality of interests of all members" of the A.E.J.M.C.

In the newsletter, Mr. Weaver devoted his "From the president . . ." column to the controversy, saying it had "been stressful for me and others in A.E.J.M.C."

Mr. Weaver wrote that he had received protest letters, "a few of which have resorted to some name-calling that seems inappropriate in an academic organization that is supposed to value freedom of expression and diversity of viewpoints."

Mr. Weaver wrote in the same issue of the newsletter and reiterated in an interview last week that his comments had been taken out of context by *The Chronicle* and that he had made clear he was speaking only for himself and not for the A.E.J.M.C.

"I thought I made a distinction between different types of courses that might be taught in journalism schools as opposed to business schools," Mr. Weaver said in the interview. "So when the quote came out it seemed I thought all advertising and P.R. courses should be taught in the business school, and that's not really what I think."

However, the chairwoman of the A.E.J.M.C.'s advisory board, Judy VanSlyke Turk, told *Editor & Publisher* magazine that Mr. Weaver "did not question the accuracy" of *The Chronicle* quotation at the organization's December meeting.

Mrs. Turk, who could not be reached for comment, was quoted as saying she found it hard to believe that "someone trained as a journalist would be so naive to believe that his personal opinion could be separated from his presidency of A.E.J.M.C."

Mr. Weaver, for his part, said he was "sick and tired" of the controversy. "I wish it would just die," he said. —MICHAEL W. HIRSCHORN

ciate dean of the the graduate school.

Mr. Turner said the small but steady stream of minority doctorates was due to more than M.I.T.'s high name recognition. He noted that M.I.T. had awarded fewer than a dozen Ph.D.'s to non-Asian minority-group members in the first 110 years of its existence.

"Faculty members are the key factors," Mr. Turner said. "If they are committed to underrepresented minorities and have this as a high priority, they will have better results."

Mr. Chandler and Mr. Turner said the lack of minority Ph.D.'s went beyond the efforts of graduate schools to recruit and retain students. They cited a wide range of problems, many of which have been noted in recent reports on the status of blacks at the high-school and college levels. Among the problems are the lack of mentors for high-school students, the decreasing number of blacks in college, and the lack of guidance given to black college students.

"One doesn't move to the graduate level immediately," Mr. Chandler said. "What feeds into the graduate level is important, too."

Another problem cited by Mr. Turner is the heavy competition from U.S. industry for minority-group college engineering graduates.

The survey did not cover professional degrees awarded in such fields as medicine, dentistry, veterinary medicine, and jurisprudence.

Copies of *Summary Report 1986: Doctorate Recipients From United States Universities* may be obtained free from the Doctorate Records Project, Office of Scientific and Engineering Personnel, National Research Council, 2102 Constitution Avenue, N.W., Washington 20418.

FACT FILE: A Profile of 1986 Recipients of Doctorates

	Arts and humanities	Business and management	Computer science	Education	Engineering	Life sciences	Mathematics	Physical sciences	Social sciences	Other professional fields[1]	All fields[2]
Doctoral degrees conferred	3,461	901	399	6,602	3,376	5,720	730	3,679	5,841	1,035	31,770
Median age at conferral	35.0	35.0	32.0	39.4	31.0	31.6	30.0	29.9	33.4	37.1	33.5
Median number of years from bachelor's degree to doctorate	12.1	11.9	9.1	15.7	8.1	8.7	7.3	7.1	10.0	13.7	10.4
Median number of years registered as a graduate student	8.2	7.0	6.5	7.8	5.9	6.4	6.0	6.0	7.2	7.7	6.8
Sex											
Male	54.8%	77.0%	87.7%	45.6%	93.3%	66.0%	83.4%	83.6%	57.6%	56.3%	64.6%
Female	45.2%	23.0%	12.3%	54.4%	6.7%	34.0%	16.6%	16.4%	42.4%	43.7%	35.4%
Citizenship											
United States	78.8%	61.4%	50.9%	84.7%	40.8%	75.9%	50.3%	66.1%	77.9%	79.2%	72.3%
Non-U.S., permanent visa	4.4%	7.2%	11.8%	2.5%	10.2%	3.6%	4.9%	4.3%	3.8%	2.6%	4.5%
Non-U.S., temporary visa	9.3%	22.8%	30.6%	7.1%	40.6%	15.2%	37.3%	23.5%	11.5%	9.4%	16.6%
Unknown	7.4%	8.7%	7.5%	5.6%	8.4%	5.3%	7.5%	6.1%	6.9%	8.8%	6.6%
Marital status											
Married	55.0%	66.5%	56.6%	65.1%	59.1%	56.4%	46.0%	50.8%	53.9%	56.9%	57.3%
Not married	35.8%	23.9%	35.8%	27.4%	31.0%	36.7%	45.5%	41.7%	37.5%	33.2%	34.5%
Unknown	9.2%	9.7%	7.5%	7.5%	9.8%	6.9%	8.5%	7.5%	8.6%	9.9%	8.2%
Per cent with bachelor's degree in same field as doctorate	58.2%	34.4%	15.5%	39.0%	73.0%	57.1%	72.9%	73.4%	57.0%	23.6%	55.1%
Planned postdoctoral study											
Fellowship	4.8%	0.2%	2.8%	1.3%	4.5%	28.1%	9.6%	18.5%	8.6%	1.3%	10.3%
Research associateship	1.5%	0.9%	7.0%	1.6%	12.5%	18.5%	11.8%	27.0%	3.1%	1.0%	9.3%
Traineeship	0.5%	1.0%	1.0%	0.4%	1.8%	1.5%	1.5%	0.7%	2.0%	0.4%	1.1%
Other	1.7%	0.2%	0.5%	0.4%	0.4%	3.8%	0.8%	0.7%	1.2%	0.6%	1.4%
Planned postdoctoral employment											
Educational institution	63.5%	73.7%	40.6%	63.9%	25.0%	21.0%	48.5%	10.9%	36.5%	53.0%	40.1%
Industry or business	5.8%	10.1%	31.6%	6.9%	34.0%	8.9%	13.0%	26.0%	11.2%	9.5%	14.0%
Government	2.6%	2.2%	4.0%	9.6%	6.8%	6.3%	2.7%	4.9%	10.8%	7.4%	7.1%
Non-profit organization	4.7%	0.9%	1.3%	4.7%	1.1%	2.1%	0.8%	0.9%	10.2%	13.5%	4.5%
Other or unknown	4.9%	1.4%	1.8%	3.8%	2.5%	2.1%	1.8%	1.5%	5.3%	2.9%	3.3%
Postdoctoral status unknown	10.5%	9.3%	9.5%	7.3%	11.5%	7.7%	9.5%	8.9%	9.5%	10.4%	9.0%
Primary postdoctoral activity											
Research and development	7.0%	28.4%	62.7%	5.3%	62.3%	47.0%	43.8%	73.5%	23.4%	8.6%	27.4%
Teaching	72.3%	56.9%	26.3%	37.1%	22.0%	28.1%	43.8%	15.7%	28.9%	48.3%	36.7%
Administration	6.4%	5.8%	2.5%	36.7%	1.7%	4.8%	1.1%	1.7%	5.9%	14.3%	13.8%
Professional services	4.3%	3.2%	3.0%	11.6%	5.1%	10.5%	4.0%	3.6%	33.8%	17.5%	13.4%
Other	5.1%	1.8%	3.0%	2.0%	2.4%	3.9%	0.8%	2.4%	3.3%	5.4%	3.0%
Unknown	5.0%	4.0%	2.5%	7.4%	6.4%	5.7%	6.5%	3.1%	4.6%	5.9%	5.7%

[1] Includes business and management, which is listed separately.
[2] Includes degree categories not listed separately.

SOURCE: SURVEY OF EARNED DOCTORATES, NATIONAL RESEARCH COUNCIL

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